405 KAR 30:320. Water quality standards, effluent limitations, and monitoring.

RELATES TO: KRS 350.600
STATUTORY AUTHORITY: KRS 224.033, 350.028, 350.050, 350.600
NECESSITY, FUNCTION, AND CONFORMITY: KRS 350.600 requires the Environmental and Public Protection Cabinet to develop administrative regulations for oil shale operations to minimize and prevent their adverse effects on the citizens and the environment of the Commonwealth. This administrative regulation sets forth water quality standards and monitoring requirements.

Section 1. Water Quality Standards. (1) For the purpose of this administrative regulation, disturbed area shall not include those areas in which only diversion ditches or roads are installed and the upstream area is not otherwise disturbed by the oil shale operations. All sedimentation ponds required shall be constructed in accordance with this chapter and in appropriate locations prior to any mining in the affected drainage area in order to control sedimentation or otherwise treat water. Sedimentation ponds shall be certified by a qualified registered engineer as having been constructed as designed and as approved by the cabinet.

(2) The discharges from areas disturbed by oil shale operations must meet all applicable federal and state laws and administrative regulations and at a minimum in the numerical limitations in Appendix A of this administrative regulation. As sufficient data becomes available, the cabinet may establish effluent limitations for other parameters.

(3) The permittee shall install, operate, and maintain adequate facilities to treat any water discharged from the disturbed area that violates applicable federal or state laws or administrative regulations or the effluent limitations listed in Appendix A of this administrative regulation.

(4) If the pH of waters discharged from the disturbed area is normally less than six (6.0) an automatic line feeder or other neutralization process approved by the cabinet shall be installed, operated, and maintained. If the cabinet finds that small and infrequent treatments are required to meet effluent limitations and do not necessitate use of an automatic neutralization process, the cabinet may approve the use of a manual system if the cabinet finds that consistent and timely treatment can be assured by the permittee.

Section 2. Surface Water Monitoring. (1) A surface water monitoring program which meets the requirements of this section shall be prepared and submitted with the permit application, and this program shall be subject to the approval of the cabinet. The program shall:

(a) Provide adequate monitoring to characterize all discharges from the disturbed area;

(b) The frequency of sampling shall be twice a month or as deemed necessary by the cabinet;

(c) Provide adequate data to describe the likely daily and seasonal variation in discharges from the disturbed area to the satisfaction of the cabinet;

(d) Provide monitoring at appropriate frequencies to measure normal and abnormal variations in concentrations;

(e) Provide an analytical quality control system including standard methods of analysis as specified in 40 CFR 136; and

(f) Provide a regular quarterly of all measurements and analyses to the cabinet, unless violations of permit conditions occur in which case the cabinet shall be notified immediately after receipt of analytical results by the permittee. If the discharge is subject to administrative regulation by a federal or state permit issued in compliance with the Federal Water Pollution Control Act Amendments of 1972 (33 USC 1251-1378) a copy of the reporting form supplied to meet the permit requirements may be submitted to the cabinet to satisfy the reporting requirements of this administrative regulation if the data meet the sampling frequency and other requirements of this section.

(2) After disturbed areas have been regraded and stabilized in accordance with the provisions of these administrative regulations, the permittee shall monitor surface water flow and quality. Data from this monitoring shall be used to demonstrate that the quality and quantity of run-off without treatment will be consistent with the requirements of this chapter to minimize disturbance to the prevailing hydrologic balance and to attain the approved postmining land use. These data shall provide a basis for approval by the cabinet for removal of water quality or flow control systems and for determining when the requirements of this administrative regulation are met. The cabinet shall approve the nature of data, frequency of collection, and reporting requirements.

(3) Equipment, structures, and other measures necessary to adequately measure and sample the quality and quantity of surface water discharges from the disturbed area of the permit area shall be properly installed, maintained, and operated and shall be removed when no longer required as determined by the cabinet.

Section 3. Recharge Capacity of Reclaimed Lands. The disturbed area shall be reclaimed to restore approximate premining recharge capacity, except when otherwise approved by the cabinet, through restoration of the capability of the reclaimed areas as a whole to transmit water to the groundwater system. The recharge capacity shall be restored to support the approved postmining land use and to minimize disturbances to the prevailing hydrologic balance to the mined area and in associated off-site areas. The permittee shall be responsible for monitoring according to Section 5 of this administrative regulation to ensure that operations conform to this requirement.

Section 4. Groundwater Systems. Backfilled materials shall be placed to minimize adverse effects on groundwater flow and quality, to minimize off-site effects and to support the approved postmining land use. The permittee shall be responsible for performing monitoring according to Section 5 of this administrative regulation to ensure that operations conform to this requirement.

Section 5. Groundwater Monitoring. Groundwater levels, infiltration rates, subsurface flow and storage characteristics, and the quality of groundwater shall be monitored in a manner approved by the cabinet to determine the effects of oil shale operations on the recharge capacity of reclaimed lands and on the quantity and quality of water in groundwater systems at the mine area and in associated off-site areas. When operations are conducted in such a manner that may affect the groundwater system, groundwater levels and groundwater quality shall be periodically monitored using wells that can accurately reflect changes in groundwater quantity and quality resulting from such operations. Sufficient water wells must be used by the permittee. The cabinet may require drilling and development of additional wells if needed to adequately monitor the groundwater system. As specified and approved by the cabinet, additional hydrologic tests, such as infiltration tests, and aquifer tests, must be undertaken by the permittee to demonstrate compliance with Sections 3 and 4 of this administrative regulation. (8 Ky.R. 125; Am. 486; eff. 3-1-82; 9 Ky.R. 962; eff. 10-5-83; TAm eff. 8-9-2007.)

Appendix A of 405 KAR 30:320					
Effluent Limitations[1]					
Type of Discharge	Fe	Mn	TSS	SS	pH

Drainage from disturbed areas other than reclamation areas	6.0/3.0[2]	4.0/2.0[2][3]	70/35[2]	---	6-9
Reclamation areas (postmining thru final bond release[4]	--	--	--	0.5	6-9
Discharge resulting from precipitation event less than or equal to 10-year, 24-hour storm[5]	--	--	--	0.5	6-9
Discharge resulting from precipitation event greater than 10-year, 24-hour storm	--	--	--	--	6-9

(1) Fe-Total iron (mg/l)
Mn-Total manganese (mg/l)
TSS-Total suspended solids (mg/l)
SS-Settleable solids (ml/l)
pH-Standard pH units

(2) Maximum concentration for one (1) day/average concentration for 30 consecutive days.

(3) Manganese applicable only if prior to treatment of discharge the pH is normally less than six (6.0) or total iron is normally equal to or greater than ten (10) mg/l.

(4) Reclamation areas include areas where active mining is completed and backfilling, grading, soil preparation, and seeding and planting have been successfully completed on all disturbed areas within the drainage area in accordance with the applicable administrative regulations.

(5) Does not include discharges which are not a direct result of a precipitation event.